

REMARKS

Claims 1-23 are pending in the application. Claims 1-3, 9-12, 15-16, 18 stand rejected. Claims 1, 16, and 18 are independent claims.

Claims 3 and 21 have been amended. The claim has been amended to explicitly state that which was implicit in the original claim language. As such, the claim has not been narrowed.

Claims 1, 16, and 18 have been amended for reason unrelated to patentability. As such, applicant makes no disclaimer through the amendment.

The drawing stand objected under 37 C.F.R. 1.83(a), for allegedly failing to show a bias-tee of the TO-can recited in claims 3, 16, and 20.

According to 35 U.S.C. 113, the statute that governs federal regulation on drawings in a patent application, **all features recited in a claim need not be shown**. The statute provides that an “applicant shall furnish a drawing **where necessary for the understanding of the subject matter** to be presented” (See also 37 C.F.R. 1.81(a) [repeating the same requirement]). According to the United States Court of Appeals for Federal Circuit,

[p]atent documents are written for persons familiar with the relevant field; **the patent[applicant] is not required to include in the specification information readily understood by practitioners**, lest every patent be required to be written as a comprehensive tutorial and treatise for generalist instead of concise statement for persons in the field.

(*Verve, LLC., v. Crane Cams, Inc.*, 311 F.3d 1116, 1119, 65 USPQ.2d 1051 (Fed. Cir. 2002).

The applicant respectfully submits that claims 3, 16, and 20 provide information as to the type of the bias-tee and how such bias-tee is arranged, the information necessary to fully understand the claim. Therefore, the applicant does not believe that additional drawing is necessary under 35 U.S.C. 113. Applicant respectfully requests withdrawal of the objection.

Applicant wishes to thank the Examiner for indicating that claims 4-8, 13-14, 17, and 19-23 would be allowed if the claims are rewritten as independent claims incorporating all features of the base and any intervening claims. At this time, applicant, however, wishes to defer rewriting the above claims as independent claims incorporating all features of the base and intervening claims. Instead, applicant wishes to amend claims 1, 16, and 18, as noted below.

Claims 1, 16, and 18 stand rejected under 35 U.S.C. ' 103(a), as allegedly being obvious over Ichikawa *et al.* (U.S. Pub. 2003/0165167) ("Ichikawa").

Claims 1 and 16 recite a TO-can type optical module comprising, *inter alia*, a photodiode (PD) mounted substantially parallel to the LD and on the submount, said PD having an inclined light incident surface said PD being arranged for detecting light emitted from a back face of the LD converting light emitted from the LD to current; and a plurality of leads extended through the stem, said leads electrically being connected to the sub-mount and aligned a row." Claim 18, a method claim, recites a method for providing a similar TO-can type optical module.

Support for such a photodiode can be found in FIG. 4, which shows a PD containing an inclined light incident surface that is substantially non-parallel to the opposite surface of the PD.

The United States Court of Appeals for the Federal Circuit held that to establish the *prima facie* case of obviousness, the prior art references must show **all features** recited in the claims (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 438 (Fed. Cir. 1991); see also MPEP 2142-2143), **including those in functional language** ((*In re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ.2d 1429 (Fed. Cir. 1997) (holding that the patent applicant is free to recite features of an apparatus claim in functional language as long as the features are not inherent to the prior art references)).

Moreover, in determining patentability, each of the claim and the prior art must be considered **in its entirety, as a whole** (see *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)).

In the present case, the Office Action indicates that the photodiode recited in claim 1 does not patentably distinguish claims 1, 16, and 18 from Ichikawa, as Ichikawa discloses a semiconductor laser device comprising a photodiode that is mounted on a stem, in an angle. The Office Action appears to indicate that such photodiode has inclined surfaces and appears to indicate that Ichikawa teaches the photodiode of claims 1, 16, and 18.

Applicant respectfully submits that the photodiode disclosed in Ichikawa, however, is different from the photodiode of claims 1, 16, and 18. In particular, the photodiode in Ichikawa, as a whole, **does not have an inclined light incident surface that is substantially non-parallel to the opposite surface of the PD, nor does Ichikawa's appear on the sub-mount**, as the photodiode of claims 1, 16, and 18. Instead, the photodiode in Ichikawa, as a whole, appears to contain photodiodes that comprise a plurality of opposite surfaces that are parallel to one another and the PD 240 is located on the stem 200 not the submount 260 as in the base claims (see FIG. 12).

Another feature not shown is the alignment of the plurality of leads as described in the base claims. In contrast, the leads shown in FIG 12 of Ichikawa are in diamond shape as opposed aligned in a row in the presently amended base claims. The present invention has the advantage of ease of manufacture as the leads are placed and melted in the hole in the stem in one process as well as its superior feature of RF over Ichikawa.

As such, the photodiode and alignment of the plurality of leads disclosed in Ichikawa as a whole, is different from the photodiode and plurality of leads recited in the amended base claims 1, 16 and 18 and Ichikawa does not teach a photodiode (PD) **mounted substantially parallel to the LD** and **on the submount**, said PD having an inclined light incident surface said PD being arranged for detecting light emitted from a back face of the LD converting light emitted from the LD to current; and a plurality of leads extended through the stem, said leads electrically being connected to the sub-mount and **aligned a row**,” as recited in amended claims 1, 16, and 18. The claims 1, 16 and 18 therefore are prima facie non-obvious over Ichikawa, and applicant respectfully requests withdrawal of the rejections.

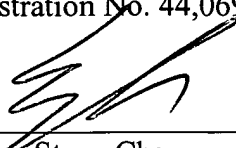
Other claims in this application are each dependent on the independent claims 1, 16, and 18 and believed patentable for the same reasons. Specifically, claim 12, which disclose the limitation of a TO-can type optical module of claim 1, wherein the LD and the PD are die-bonded onto the sub-mount by a solder pattern. Applicants find that no such feature is shown in Ichikawa in paragraph 5. In fact, that reference specifically teaches wire bonding. The present invention teaches solder bonding which is used instead of wire bonding. That is the present invention has the advantage in reducing parasitic inductance as the lead of the TO-can stem and the bonding pad of the submount are electronically connected by the solder pattern (Specification page 7, lines 19 to 21). Regarding claim 12 and the remaining dependent claims, since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

Amendment
Serial No. 10/811,599

Should the Examiner deem that there are any issues which may be best resolved by telephone, please contact Applicant's undersigned representative at the number listed below.

Respectfully submitted,

Steve Cha
Registration No. 44,069



Date: April 26, 2006

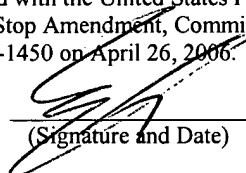
By: Steve Cha
Attorney for Applicant
Registration No. 44,069

Mail all correspondence to:
Steve Cha, Registration No. 44,069
Cha & Reiter
210 Route 4 East, #103
Paramus, NJ 07652
Tel: 201-226-9245
Fax: 201-226-9246

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Steve Cha, Reg. No. 44,069
(Name of Registered Rep.)



(Signature and Date)